Programme syllabus

Master's Programme, Architectural Lighting Design, 60 credits
Magisterprogram, ljusdesign
60.0 credits

Valid for students admitted to the education from autumn 09 (HT - Autumn term; VT - Spring term).

This is a translation of the Swedish, legally binding, programme syllabus.

Programme objectives

The program, Architectural Lighting Design, is based on the quality descriptions for Degree of Master, one year (Higher education ordinance, issued by the Swedish national agency for higher education). After completing the courses’ requirements, the students must be able to demonstrate the following knowledge, skills and judgements.

Knowledge and understanding

- Broad scientific based knowledge in the area of electrical light and daylight
- In-depth and thorough knowledge in the area of Architectural Lighting Design
- Ability to apply advanced knowledge in the area.

Skills and abilities

- Independent ability to identify, formulate, analyze and solve problems in the area of Architectural Lighting Design, for electrical and daylight solutions
- Ability to formulate a concept for outdoor and indoor architectural lighting following the Design process and the KTH method.
- Ability to apply advanced techniques and tools in the area
- Ability to present and communicate results in an international environment

Ability to make judgements and adopt a standpoint

- Ability to independent and critical analysis of results in the area
- Show a professional and ethical responsibility in scientific, technical, ecological and social activities.
- Have understanding that Architectural-related problems, considered from a design, building and urban perspective are often complex, can be incompletely defined and sometimes contain conflicting conditions.
Extent and content of the programme

The program consists of one-year full of time studies corresponding to 60 higher education credits. The language of instruction is English. Individual adjustment of the duration of the program is possible, e.g. part-time studies. The programme’s main content is the design of daylight and artificial lighting in architectural environments indoor and outdoor. It is a mainly a one-track program.

Eligibility and selection

In order to be eligible to apply to the master’s program, a higher education degree of at least 180 higher education credits of Bachelor’s degree in Architecture, Design or Engineering must be completed. The Engineering degree must contain at least 50 credits of Architecture and Design subjects. A good knowledge of English, equivalent to Eng. B

Specific admission requirements

The specific requirements may be assessed as not fulfilled if

1. the degree awarding institution is not considered to meet acceptable quality standards by the authorities of the country in which the institution is located
2. the degree does not qualify for admission to equivalent Master level in the country where the degree is awarded

Selection Admission to the program is based on the following criteria (in order of priority): Assessment of university/higher education institute; grades in degree; grades in courses relevant to the program; work experience relevant to the program; and letter of recommendation and references. KTH’s admission policy can be found in the KTH Handbook.

Implementation of the education

Structure of the education

The study year is partitioned into four study periods, two during the autumn term and two during the spring term. The program starts in late August and ends in the beginning of June the following year. The program is given at Campus Haninge, KTH, School of Technology and Health. The programme includes nine months of taught courses which corresponds to 60 higher education credits; 1.5 higher education credits corresponds to one week of full time studies.

The program consists of the following courses and subjects.

Term 1: Light and Humans: Basis of light for humans related to visual, perceptual, biological, architectural and cultural aspects. Theoretical basis in luminaire design including tools for the product design process. The character of light sources and their field of application. Materials and how they can be used on and affect light distribution. Workbook presentation and reflections. Light and Room I - Outdoor Lighting: Theoretical basis in concept and calculation for outdoor lighting. Fundamentals of urban planning related to lighting design Full-scale applications and tests Sustainability and energy
conservation Workbook presentation and reflections. **Light and Science**: Theoretical knowledge related to practical application. In this module, the students will use their knowledge to contemplate in existing environments and make a case study to evaluate the lighting qualities, within writing an academic text. Workbook presentation and reflections. **Light and room II – Indoor Lighting**: Theoretical basis in concept and calculation for indoor lighting. How to use the tools in a complex design process indoor. Full-scale tests. Methods for visual evaluation. Workbook presentation and reflections. **Term 2: Daylight and the Design process**: Methods of daylight applications in buildings treating the complex co-ordination of daylight design; material, constructions, architectural, climate and functional effects. Workbook presentation and reflections. **Degree project**: Individual projects with a scientific or practice approach. The language of instruction is English. Course descriptions and syllabuses can be found in KTH study handbook. Course names and numbers are listed in Appendix 1.

**Courses**

The programme is course-based. Lists of courses are included in appendix 1.

**Grading system**

Courses in the first and the second cycle are graded on a scale from A to F. A-E are passing grades, A is the highest grade. The grades pass (P) and fail (F) are used for courses under certain circumstances.

**Conditions for participation in the programme**

**Term enrolment** A condition in order to be able to participate in the studies is that the student must enrol for the next term every spring and fall. This is done via “My pages” on KTH’s web page between November 1st and 15th and between May 1st and 15th. With the enrolment, the student has submitted their intention of studying and participating in the program. Only after that is it possible for the student to: - register for courses - register for the term - get results

**Recognition of previous academic studies**

The student has the possibility to apply to receive credit from courses taken at another university/higher education institution both in Sweden and from abroad. The application can be found on KTH’s web page. KTH’s policy for recognition of previous academic studies can be found entirely in the KTH Handbook.

**Degree project**

The degree project gives the student an opportunity to show his/hers ability of independent work in the main area of the program, as well as writing reports and scientific papers. The degree project work can be started only after a large portion of the studies have been completed. The adviser for the degree project is appointed by the program director. Guidelines for the degree project can be found in the KTH Handbook 2 (page 15.5) and the instructions for degree projects at the School of Technology and Health.

**Degree**
In order to graduate with the Degree of Master of Science (One Year) within the main area Architectural Lighting Design, a passing grade must be achieved in all courses in the student’s study plan. The study plan must comprise 60 higher education credits including a degree project consisting of 15 credits. KTH’s local degree ordinance can be found in the KTH Handbook.

Appendix 1 - Course list
Appendix 2 - Programme syllabus descriptions
# Appendix 1: Course list

Master's Programme, Architectural Lighting Design, 60 credits (TLODM), Programme syllabus for studies starting in autumn 2009

## General courses

### Year 1

**Mandatory courses (45.0 Credits)**

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS2001</td>
<td>Light and Room 1, Outdoor Lighting</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>HS2002</td>
<td>Light and Room 2, Indoor Lighting</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>HS2003</td>
<td>Light and Science</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>HS2005</td>
<td>Light and Humans</td>
<td>7.5 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>HS200X</td>
<td>Degree Project in Architectural Lighting Design, Second Cycle</td>
<td>15.0 hp</td>
<td>Second cycle</td>
</tr>
</tbody>
</table>

**Conditionally elective courses**

<table>
<thead>
<tr>
<th>Course code</th>
<th>Course name</th>
<th>Credits</th>
<th>Edu. level</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS2004</td>
<td>Daylight and Design Process</td>
<td>15.0 hp</td>
<td>Second cycle</td>
</tr>
<tr>
<td>HS2006</td>
<td>Luminaire Design</td>
<td>15.0 hp</td>
<td>Second cycle</td>
</tr>
</tbody>
</table>
Appendix 2: Specialisations

Master's Programme, Architectural Lighting Design, 60 credits (TLODM), Programme syllabus for studies starting in autumn 2009

This programme has no specialisations.